



"Safety Comes First"

Case Department of Occupational and Environmental Safety

November/
December
2009

Service Building, 1st Floor

Phone: (216) 368-2906/2907

FAX: (216) 368-2236

Website: <http://does.case.edu>

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Make Your Own Material Safety Data Sheet (MSDS)

The OSHA Hazard Communications Standard (1910.1200) requires that chemical manufacturers generate an MSDS for any and all chemicals that they create. This requirement ensures that all people who handle the chemical are provided with access to safety and health information and emergency procedures that should be followed should an accident occur. Most researchers understand the necessity for requirements for large companies such as Sigma-Aldrich and Fisher Scientific that handle large amounts of chemicals. However, these requirements also apply to the research laboratory that creates relatively small (milligram or less) amounts of a chemical product. This is especially the case if the laboratory is shipping these chemical materials to an

other location for testing. Recently, a letter written to OSHA by a researcher from Louisiana State University (LSU) asked if an MSDS was required for a sample that they described as:

"...few grams of these chemicals that exist, they are not commercial, and their chemical identities are unknown. These chemicals are shipped to other laboratories for characterization, testing and analysis, and they are handled exclusively by trained professionals in laboratories that comply with the laboratory standard."

In short, OSHA replied that since the chemicals were being offered for transportation, therefore exposing the public, an MSDS was required no matter what the quantity. They also explained that if the chemical were to be

used strictly "in-house," an MSDS would not be required, but employee protection should be addressed to ensure the safety of all.

Along with generating an MSDS for any samples that are being sent to another institution, remember that only personnel who have received adequate hazardous materials transportation training from the DOES office may ship the material. Per federal law, any container of hazardous material (biological, chemical, radioactive, and dry ice) *(continued on next page)*



Make Your Own Material Safety Data Sheet (MSDS)

(continued from front page) ...is being offered for transportation must be properly packaged, marked, labeled, and appropriate paper work completed. If anyone sends a package of hazardous materials and the proper steps are not followed, civil and criminal charges may be applied.

A blank MSDS is available on the DOES website under "Chemical Safety." Hazardous material transportation training is provided by the DOES office and can be scheduled by contacting 368-2907.

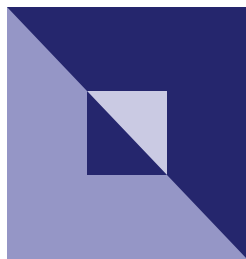
Biological Safety Cabinet (BSC) : Certification Reminders

A biological safety cabinet (BSC) is the primary barrier protection for individuals working with biohazardous materials. Laboratory procedures that could create airborne biohazards should always be performed in a BSC as it protects laboratory workers and the environment from aerosols or droplets that could spread biohazardous material. The Center for Disease Control (CDC) and The National Institutes of Health (NIH) recommend that biological safety cabinets be certified by a licensed contractor at the time of installation, any time the BSC is moved, and/or has a filter replaced to ensure that the biological safety cabinet is in good working order.

Laboratories that conduct research involving infectious agents, any material that is contaminated or possibly contaminated with an infectious agent, or any material of a biological origin that could potentially cause harm to humans, domestic or wild animals, or plants have stricter requirements for BSC certification. These cabinets must be certified *annually* as well as any other time mentioned above. If these three types of materials listed above are not used, BSC certification is only required every *three years*. If this is the case, a sign must be posted on the BSC indicating that no work involving biohazardous agents is allowed. Signs are available in the DOES office upon request.

DOES recommends the use of Laboratory Certification Services (LCS) to fulfill this certification requirement. LCS can be scheduled by completing the *Bio-hood Work Order Request Form* located on the DOES website (<http://does.case.edu>) under the link for *Biological Safety*. This form must be completed in order to have any type of service performed on BSCs.

"A blank MSDS is available on the DOES website under "Chemical Safety." Hazardous material transportation training is provided by the DOES office and can be scheduled by contacting 368-2907."



“For the Want of a Nail...the Kingdom Was Lost” –Taking Care of Your Fume Hood

by Mary Ellen Scott, PhD

Not many of us think about the time and cost involved with hood repairs, at least not very often. Yet, when repairs are needed they are expected to be done immediately if not sooner. At least one repair can be effectively eliminated with just a little attention to a common work practice. When working inside the hood, control the loose fly away items (e.g., kim wipes, paper towels, paper mattings, etc.) by using a little tape to anchor the items or by removing the items after completing the work. In Figures 1 and 2, note the pictures of a few paper towels and kim wipes that were lodged in a hood VAV valve 30 feet down the line from the offending hood.



Figures 1 and 2: Materials Retrieved from Fume Hoods

Source: Joe Nikstenas

So what's the big deal? The “big deal” is that it costs the Case community time and money to repair the fume hoods when simply properly using the equipment would avoid these problems.

Below is a list of all the steps that was needed to complete this repair:

1. A call from the researcher because hood is making an alarming sound;
2. Notification to safety to check and clear hood for repair;
3. Repair scheduled;
4. Hood was cleared and placed offline;
5. Lab shelving cleared and lights removed;
6. Two technicians were needed to trace blockage (they must drill into the vent at several places and run a camera inside the vent each time to locate block);
7. Lab items removed and VAV valve reset;
8. Replaced lab items on shelves, hood recertified;
9. Research resumed after one week

In the case above, the paper caused the sensitive and expensive VAV mechanism to malfunction, 40 hours of technical manpower was consumed, and research time diminished throughout the entire repair process. So avoid the fly-away cellulose in the hood; use paper only when necessary and remove the loose paper from the hood

(continued on page 5)

“When working inside the fume hood, control the loose fly away items (e.g., kim wipes, paper towels, paper mattings, etc.) .”

Holiday Decorations: Play It Safe

“... the decorations we use can potentially lead to serious safety hazards if we are not careful. We need to be especially aware of increased fire hazards during the holiday season.”



The holidays are getting closer every day. As we begin to prepare for the holidays, safety may not be the foremost thought on our mind. However, the decorations we use can potentially lead to serious safety hazards if we are not careful. We need to be especially aware of increased fire hazards during the holiday season.

Here are a few safety measures to keep in mind as you decorate:

1. Decorations must be flame-proof or made of non-flammable material.
2. If decorating a live tree, be sure to...
 - use a fresh ever-green that has been treated
 - with a flame retardant.
 - equip it with a tree stand that can hold water at the base of the tree; keep it full.
 - remove the tree prior to closing for break.

CAUTION: No electrical equipment or devices are permitted on or under trees; only in-

direct lighting may be used. Nor are candles or open flames allowed on, under, or within 10 feet of the tree. SEVERAL fires at Case have started this way in the past.

3. If using a metallic tree or decoration, do not place electrical lights or objects on it.
4. Decoration materials must not be exposed to lightbulbs, heaters, or other heat or flames.
5. Gift wrappings should be removed right away.
6. Door decorations must not overlap the top, bottom, or sides of doors.
7. Do not leave lights unattended.
8. Do not place any decorations where they would hinder access to safety equipment (fire alarms, extinguishers) or exits.
9. REMEMBER that if a fire does occur:

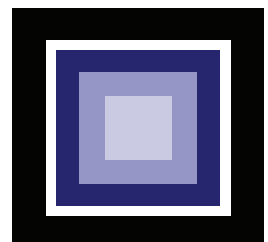
- Warn/remove people in danger.

- Activate a pull alarm (usually near exits).
- Call Protective Services at x3333 and give a complete description of the fire. DO NOT CALL 911.
- If the fire is manageable, and ONLY if you have been trained, use your fire extinguisher. Only attempt to put out the fire after the alarm has been sounded and the evacuation of the building has begun.

CAUTION: If you are NOT trained to use the fire extinguisher, sound the fire alarm and get out of the building.

Enjoy the holidays and please, BE SAFE.

Contact DOES at x2907 if you have any questions or concerns about holiday decoration displays.



“For the Want of a Nail...the Kingdom Was Lost” –Taking Care of Your Fume Hood (continued)

(continued from page 3) ...when the task is completed. Also, be on the lookout for the packaging materials when opening packaged chemicals packed inside the hood. These light weight packaging materials can be easy swept up into the hood exhaust.

This age old proverb below reminds us that small actions can result in large consequences:

*For want of a nail the shoe was lost.
 For want of a shoe the horse was lost.
 For want of a horse the rider was lost.
 For want of a rider the battle was lost.
 For want of a battle the kingdom was lost.
 And all for the want of a horseshoe nail*



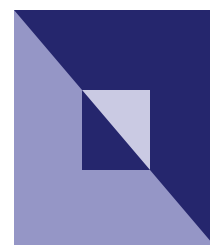
“Be on the lookout for the packaging materials when opening chemicals packed inside boxes in the hood too. hood exhaust.”

Laboratory Plastics—Creating a Sustainable Environment

In order to help create a sustainable culture at Case, DOES has a recycling program. Laboratory plastics can be recycled as long as they are handled properly. In order to prepare plastic chemical bottles, media bottles, old carboys, or any other plastic marked with a #1, #2, #3, or #5 recycle code you must first deface all chemical labels. The best way is to take a permanent marker and blackout any lettering on the outside of the bottle. Next, the lids can be disposed of in the regular trash and the bottle should be triple rinsed to ensure that no residue is left behind. Taking these steps helps to ensure that personnel removing the plastics are safe.

As mentioned above, most plastics marked with the appropriate recycle code can be recycled. This does not include pipette tip boxes or inserts. Many distributors like Laboratory Product Sales and USA Scientific will take pipette tip boxes and inserts which you have purchased from their company.

In order to obtain a recycle bin for your laboratory please contact Fred Peck of Custodial Services at 368-1075. All other questions can be directed to Jon Birkes in DOES office at 368-1519.



Controlling Laboratory Ergonomic Risk



Ergonomics is a means of adapting the work environment to human capacities and needs. In common terms, it is a way of fitting the task to the person. In our daily lives in the workplace, we use principles of ergonomics to find positions and tools that minimize stress on the body while working.

All manual and repetitive work done for long periods of time places stress on certain areas of the body. This includes many laboratory tasks that require painstaking and lengthy procedures, e.g., pipetting, labeling small jars or test tubes, sitting at the microscope, and using the computer. These tasks can contribute to poor posture, repetitive stress injury, and other ailments.

This article will provide suggestions for reducing ergonomic risk factors common to the laboratory: awkward posture, high repetition, excessive force, contact stresses, and vibration. By learning how to control laboratory ergonomic risk factors, you can improve employee comfort and productivity while lowering chances for occupational injuries.

Pipetting

Pipetting is one of the most common activities in the laboratory to which repetitive strain injuries (RSIs) can be traced. These tips can help reduce those factors of force, position, and repetitiveness which contribute to the stress this activity places on the body.

To Control Awkward Postures:

- Work with wrists in straight, neutral positions to minimize strain. For example, incline the sample holder or solution flask, for example, to help keep wrists straight.
- Reduce reaching. Use short pipettes, conveniently-sized solution containers, and properly position waste containers for used tips.
- Keep items in use as close to you as possible by positioning them to minimize twisting of the neck and torso.
- Work with elbows as close to your sides as possible.
- Make sure that your chair provides proper lower back and thigh

support and that feet are supported.

To Control High Repetition:

- Automate pipetting tasks.
- Use multi-pipettors whenever practical.
- Share workload between right and left sides.
- Vary pipetter types having different activation motions; for example, switch from using a thumb-controlled to a finger-controlled pipetter.
- Take adequate breaks away from pipetting activity. Even short, several second micro-breaks help.
- Rotate pipetting among several employees.
- Evaluate work processes to identify high-risk tasks (such as repetitive pipetting). These tasks can then be spread throughout the day and provide the worker with some rest from the strain of repetition.
- Add personnel for peak periods.

Safety Services can also help by doing an ergonomic evaluation of your workstation and possibly making some recommendations to improve the situation. For further information, call Safety Services (ext. 2907).

Upcoming Training Sessions*

IMPORTANT NOTE: While all laboratories must attend training at DOES, labs must hold specific training in the CHP and ECP as it pertains to the actual work they do. Labs will also need an outline of the CHP and ECP training and a sign in sheet to accompany. Store the sign-in sheet and outline with the CHP and ECP. It will be asked for during lab inspections.

New Hazard Communication (Right-to-Know) Training

Retraining is required annually.

DOES Small Meeting Room - Service Building 1st Floor

PREREGISTRATION IS *REQUIRED!* - Please call 368-2907

New Radiation Safety Training

Retraining is required annually.

DOES conference room - Service Building 1st Floor

PREREGISTRATION IS *REQUIRED!* - Please call 368-2906

New Laser Safety Training

Retraining is required annually.

DOES conference room - Service Building 1st Floor

PREREGISTRATION IS *REQUIRED!* - Please call 368-2906

FOR THE FOLLOWING CLASSES:

Laboratory Safety Retraining

Regulated Chemical Retraining

Hazard Communication (Right-to-Know) Retraining

Bloodborne Pathogen Retraining

Radiation Safety Retraining

Laser Safety Retraining

Respirator Safety Retraining

Please retrain on the Internet at <<http://does.case.edu>> and click on Training.

Print test and fax or mail it to the DOES office.

If your training is more that one year overdue, then you must attend the training class in person and cannot retrain online.

FOR THE FOLLOWING CLASSES:

New Laboratory Safety Training

New Regulated Chemical Training (Formaldehyde, Benzene, Methylene Chloride, Vinyl Chloride, etc.)

New Bloodborne Pathogen Training

New Respirator Safety Training

New BSL-3 Safety Training

Retraining is required annually.

DOES Conference Room - Service Building 1st Floor

PREREGISTRATION IS REQUIRED! - Please call 368-2907

***THIS IS A TRUNCATED LIST OF OUR OFFERINGS. As always, consult our website (<http://does.case.edu>) for a full schedule of training sessions.**



Please remember that our updated DOES website provides many resources to meet your safety needs. The DOES website (<http://does.case.edu/>) includes all of the following resources:

- Safety Services Manuals and Forms
- Archived DOES Newsletters
- Training Class Schedules
- Staff Information
- MSDS
- Important Safety Links
- Our Mission Statement
- Contact Information

If you have any questions about our website, please feel free to contact us at ext. 2906/2907

DOES STAFF

W. David Sedwick, Ph.D., (wds), Director and RSO Radiation Safety.
Marc Rubin (mdr6), Associate Director of Chemical and Biological Safety
Felice Thornton-Porter (fst2), Assistant Director and Asst. RSO, Q.A. Specialist
Shirley Mele (smm5), Manager/Ergonomic Coordinator
Gwendolyn Cox-Johnson (gxc13), Dept. Assistant II
Jason May (jason.may), Dept. Assistant I
Ronald Tulley, Ph.D. (rxt33), Technical Writer

Chemical Safety

Robert Latsch (rnl2), Specialist II
Bill DePetro (wjd11), Specialist II
Tom Merk (tlm8), Specialist II
Jon Birkes (jon.birkes), Specialist II
Edwin Filppi (edwin.filppi), Specialist II
Mary Ellen Scott, Ph.D. (mas35), Specialist II
Anna Dubnisheva (anna.dubnisheva), Specialist I

Radiation Safety

Yelena Neyman (yxt13), Specialist I
Charles Greathouse (cxg118), Analyst Programmer I
Joe Nikstenas (jen), Operations Supervisor, Specialist II
Victoria Cook (victoria.cook), Specialist I
Sylvia Kertesy (sylvia.kertesy), Specialist I

**Remember, all back issues of the DOES Newsletter can be found online at
<http://does.case.edu> Simply click on the "Newsletter" link in the left-hand column!**

**Department of Occupational and Environmental Safety
Case Western Reserve University
(216) 368-2906/2907 FAX: (216) 368-2236
(E-mail) does@po.case.edu (www) <http://does.case.edu>**